



DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS-R4-ES-2022-N017; FXES11140400000-223-FF04E00000]

Endangered Species; Recovery Permit Applications

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of receipt of permit applications; request for comments.

SUMMARY: We, the U.S. Fish and Wildlife Service, have received applications for permits, permit renewals, and/or permit amendments to conduct activities intended to enhance the propagation or survival of endangered species under the Endangered Species Act of 1973, as amended. We invite the public and local, State, Tribal, and Federal agencies to comment on these applications. Before issuing any of the requested permits, we will take into consideration any information that we receive during the public comment period.

DATES: We must receive written data or comments on the applications by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

ADDRESSES: *Reviewing Documents:* Documents and other information submitted with the applications are available for review, subject to the requirements of the Privacy Act and Freedom of Information Act. Submit a request for a copy of such documents to Karen Marlowe (see **FOR FURTHER INFORMATION CONTACT**).

Submitting Comments: If you wish to comment, you may submit comments by one of the following methods:

- *U.S. mail:* U.S. Fish and Wildlife Service Regional Office, Ecological Services, 1875 Century Boulevard, Atlanta, GA 30345 (Attn: Karen Marlowe, Permit Coordinator).

- *Email:* permitsR4ES@fws.gov. Please include your name and return address in your email message. If you do not receive a confirmation from the U.S. Fish and Wildlife Service that we have received your email message, contact us directly at the telephone number listed in **FOR FURTHER INFORMATION CONTACT.**

FOR FURTHER INFOMATION CONTACT: Karen Marlowe, Permit Coordinator, 404-679-7097 (telephone), karen_marlowe@fws.gov (email), or 404-679-7081 (fax). Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION: We invite review and comment from the public and local, State, Tribal, and Federal agencies on applications we have received for permits to conduct certain activities with endangered and threatened species under section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*), and our regulations in the Code of Federal Regulations (CFR) at 50 CFR part 17. With some exceptions, the ESA prohibits take of listed species unless a Federal permit is issued that authorizes such take. The ESA's definition of "take" includes hunting, shooting, harming, wounding, or killing, and also such activities as pursuing, harassing, trapping, capturing, or collecting.

A recovery permit issued by us under section 10(a)(1)(A) of the ESA authorizes the permittee to take endangered or threatened species while engaging in activities that are conducted for scientific purposes that promote recovery of species or for enhancement of propagation or survival of species. These activities often include the capture and collection of species, which would result in prohibited take if a permit were

not issued. Our regulations implementing section 10(a)(1)(A) for these permits are found at 50 CFR 17.22 for endangered wildlife species, 50 CFR 17.32 for threatened wildlife species, 50 CFR 17.62 for endangered plant species, and 50 CFR 17.72 for threatened plant species.

Permit Applications Available for Review and Comment

Proposed activities in the following permit requests are for the recovery and enhancement of propagation or survival of the species in the wild. The ESA requires that we invite public comment before issuing these permits. Accordingly, we invite local, State, Tribal, and Federal agencies and the public to submit written data, views, or arguments with respect to these applications. The comments and recommendations that will be most useful and likely to influence agency decisions are those supported by quantitative information or studies.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Permit Application Number	Applicant	Species	Location	Activity	Type of Take	Permit Action
TE 054973-6	Nicholas Haddad, Michigan State University, East Lansing, MI	Mitchell's satyr butterfly (<i>Neonympha mitchellii mitchellii</i>) and Saint Francis' satyr butterfly (<i>Neonympha mitchellii francisci</i>)	Alabama, Michigan, Mississippi, and North Carolina	Population monitoring, scientific research, captive propagation, and release into suitable habitat	Capture, mark, transport, release, recapture, and salvage	Renewal/Amendment
TE 822525-7	Joseph McGlincy, Wiregrass Ecological Services, Bainbridge, GA	Red-cockaded woodpecker (<i>Picoides borealis</i>)	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee	Population management and monitoring	Capture, band, monitor nest cavities, construct and monitor artificial nest cavities and restrictors, recapture, and translocate	Renewal
PER 0020528	Kyle Edmonds, USDA Forest Service, Daniel Boone National Forest, London, KY	Gray bat (<i>Myotis grisescens</i>), Indiana bat (<i>Myotis sodalis</i>), northern long-eared bat (<i>Myotis septentrionalis</i>), Ozark big-eared bat (<i>Corynorhinus (=Plecotus) townsendii ingens</i>), and Virginia big-eared bat (<i>Corynorhinus (=Plecotus) townsendii virginianus</i>)	Kentucky	Presence/probable absence surveys, studies to document habitat use, and population monitoring	Enter hibernacula or maternity roost caves, capture with mist nets or harp traps, handle, identify, band, and radio tag	New
TE 206777-4	Ralph Costa, Ralph Costa's Woodpecker Outfit, LLC,	Red-cockaded woodpecker (<i>Picoides borealis</i>)	Alabama, Arkansas, Florida, Georgia, Louisiana,	Population management and monitoring	Capture, band, monitor nest cavities, construct and	Renewal/Amendment

	Mountain Rest, SC		Mississippi, North Carolina, Oklahoma, South Carolina, Texas, and Virginia		monitor artificial nest cavities and restrictors, recapture, collect buccal swabs, and translocate	
TE 130300-6	Paul Johnson, Alabama Aquatic Biodiversity Center, Marion, AL	Fish: Alabama sturgeon (<i>Scaphirhynchus suttkusi</i>), boulder darter (<i>Etheostoma wapiti</i>), Cahaba shiner (<i>Notropis cahabae</i>), chucky madtom (<i>Noturus crypticus</i>), palezone shiner (<i>Notropis albizonatus</i>), rush darter (<i>Etheostoma phytophilum</i>), vermillion darter (<i>Etheostoma chermocki</i>), watercress darter (<i>Etheostoma nuchale</i>); Mussels: Alabama lampmussel (<i>Lampsilis virescens</i>), Alabama pearlshell (<i>Margaritifera marrianae</i>), Appalachian monkeyface (pearlymussel) (<i>Quadrula sparsa</i>), birdwing pearlymussel (<i>Lemiox rimosus</i>), black clubshell (<i>Pleurobema curtum</i>), Canoe Creek clubshell (<i>Pleurobema athearni</i>), Choctaw bean (<i>Villosa choctawensis</i>), clubshell (<i>Pleurobema clava</i>), Coosa moccasinshell (<i>Medionidus parvulus</i>), cracking pearlymussel (<i>Hemistena lata</i>), Cumberland bean (pearlymussel) (<i>Villosa trabalis</i>), Cumberland elktoe (<i>Alasmidonta atropurpurea</i>), Cumberland monkeyface (pearlymussel) (<i>Quadrula intermedia</i>),	Alabama, Georgia, Mississippi, and Tennessee	Scientific research, captive propagation, relocation, and reintroduction	Collect, transport, hold in captivity for longer than 45 days, release, translocate, and euthanize	Renewal/ Amendment

		Cumberlandian combshell (<i>Epioblasma brevidens</i>), dark pigtoe (<i>Pleurobema furvum</i>), dromedary pearlymussel (<i>Dromus dromas</i>), fanshell (<i>Cyprogenia stegaria</i>), fat threeridge (mussel) (<i>Amblema neislerii</i>), finerayed pigtoe (<i>Fusconaia cuneolus</i>), flat pigtoe (<i>Pleurobema marshalli</i>), Georgia pigtoe (<i>Pleurobema hanleyianum</i>), Gulf moccasinshell (<i>Medionidus penicillatus</i>), heavy pigtoe (<i>Pleurobema taitianum</i>), littlewing pearlymussel (<i>Pegias fabula</i>), Ochlockonee moccasinshell (<i>Medionidus simpsonianus</i>), orangefoot pimpleback (pearlymussel) (<i>Plethobasus cooperianus</i>), Ouachita rock pocketbook (<i>Arkansas wheeleri</i>), oval pigtoe (<i>Pleurobema pyriforme</i>), ovate clubshell (<i>Pleurobema perovatum</i>), oyster mussel (<i>Epioblasma capsaeformis</i>), pale lilliput (pearlymussel) (<i>Toxolasma cylindrellus</i>), pink mucket (pearlymussel) (<i>Lampsilis abrupta</i>), purple bean (<i>Villosa perpurpurea</i>), purple cat's paw (=purple cat's paw pearlymussel) (<i>Epioblasma obliquata obliquata</i>), ring pink (mussel) (<i>Obovaria retusa</i>), rough pigtoe (<i>Pleurobema plenum</i>), round ebonyshell (<i>Fusconaia rotulata</i>), scaleshell mussel (<i>Leptodea leptodon</i>), sheepnose mussel (<i>Plethobasus cyphyus</i>), shiny pigtoe (<i>Fusconaia</i>			
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		<p><i>cor</i>), shinyrayed pocketbook (<i>Lampsilis subangulata</i>), slabside pearlymussel (<i>Pleuronaia dolabelloides</i>), snuffbox mussel (<i>Epioblasma triquetra</i>), southern acornshell (<i>Epioblasma othcaloogensis</i>), southern clubshell (<i>Pleurobema decisum</i>), southern kidneyshell (<i>Ptychobranchus jonesi</i>), southern pigtoe (<i>Pleurobema georgianum</i>), southern sandshell (<i>Hamiota australis</i>), spectaclecase (mussel) (<i>Cumberlandia monodonta</i>), stirrupshell (<i>Quadrula stapes</i>), tan riffleshell (<i>Epioblasma florentina walkeri</i> (=<i>E. walkeri</i>)), triangular kidneyshell (<i>Ptychobranchus greenii</i>), tubercled blossom (pearlymussel) (<i>Epioblasma torulosa torulosa</i>), upland combshell (<i>Epioblasma metastriata</i>), white wartyback (pearlymussel) (<i>Plethobasus cicatricosus</i>), winged mapleleaf (<i>Quadrula fragosa</i>); Snails: Anthony's riversnail (<i>Atheurnia anthonyi</i>), armored snail (<i>Pyrgulopsis</i> (=<i>Marstonia</i>) <i>pachyta</i>), cylindrical lioplax (snail) (<i>Lioplax cyclostomaformis</i>), flat pebblesnail (<i>Lepyrium showalteri</i>), interrupted (=Georgia) rocksnail (<i>Leptoxis foremani</i>), plicate rocksnail (<i>Leptoxis plicata</i>), rough hornsnail (<i>Pleurocera foremani</i>), royal marstonia (snail) (<i>Pyrgulopsis ogmorhaphe</i>), and slender campeloma (<i>Campeloma decampi</i>)</p>			
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TE 084054-4	James Orr, AECOM, Franklin, TN	Anthony's riversnail (<i>Atheearnia anthonyi</i>) and Nashville crayfish (<i>Orconectes shoupi</i>)	Alabama and Tennessee	Presence/probable absence surveys, population monitoring, and distribution studies	Capture, identify, measure, and release	Renewal
TE 38642A-3	Kenneth Meyer, Avian Research and Conservation Institute, Gainesville, FL	Audubon's crested caracara (<i>Polyborus plancus audubonii</i>) and Everglade snail kite (<i>Rostrhamus sociabilis plumbeus</i>)	Florida	Examine core foraging areas, roosts, nest sites, timing of destinations of long-distance movements throughout the year, habitat loss and degradation effects, methyl mercury levels, and genetic sex determination	Capture, weigh, measure, band, collect body coverts, blood, and egg albumen, attach solar-powered transmitters, and release	Amendment
TE 62026D-2	Catherine Haase, Austin Peay State University, Clarksville, TN	Gray bat (<i>Myotis grisescens</i>), Indiana bat (<i>Myotis sodalis</i>), and northern long-eared bat (<i>Myotis septentrionalis</i>)	Kentucky and Tennessee	Assess bat community structure and habitat use	Capture with mist nets, handle, identify, band, and radio tag	Amendment
TE 084047-5	St. John's River Water Management	Florida scrub-jay (<i>Aphelocoma coerulescens</i>) and red-cockaded woodpecker (<i>Picoides borealis</i>)	Florida	Population management and monitoring	Florida scrub-jay: Capture, band, and release; red-	Renewal/ Amendment

	District, Mount Dora, FL				cockaded woodpecker: capture, band, monitor nest cavities, construct and monitor artificial nest cavities and restrictors, recapture, and translocate	
TE 810274-14	ICF Jones and Stokes, Inc., Fisherville, KY	Bats: Gray bat (<i>Myotis grisescens</i>), Indiana bat (<i>Myotis sodalis</i>), northern long-eared bat (<i>Myotis septentrionalis</i>), Ozark big-eared bat (<i>Corynorhinus (=Plecotus) townsendii ingens</i>), and Virginia big-eared bat (<i>Corynorhinus (=Plecotus) townsendii virginianus</i>); Fish: Blackside dace (<i>Phoxinus cumberlandensis</i>), Cumberland darter (<i>Etheostoma susanae</i>), diamond darter (<i>Crystallaria cincotta</i>), duskytail darter (<i>Etheostoma percnurum</i>), Kentucky arrow darter (<i>Etheostoma spilotum</i>), palezone shiner (<i>Notropis albizonatus</i>), relict darter (<i>Etheostoma chienense</i>), and snail darter (<i>Percina tanasi</i>); Mussels: Alabama lampmussel (<i>Lampsilis virescens</i>), Appalachian elktoe (<i>Alasmidonta raveneliana</i>), Appalachian monkeyface (pearlymussel) (<i>Quadrula sparsa</i>), birdwing pearlymussel (<i>Lemiox rimosus</i>), black clubshell (<i>Pleurobema curtum</i>), clubshell	Bats: Alabama, Arkansas, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania,	Bats: Presence/probable absence surveys, studies to document habitat use, and population monitoring; Fish, Mussels, and Crustaceans: presence/probable absence surveys	Bats: Enter hibernacula or maternity roost caves, capture with mist nets or harp traps, handle, identify, band, and radio tag; Fish: capture, identify, and release; Mussels: capture, identify, mark, release, collect relict shells; Crustaceans: capture via seining, handle, identify, and release	Renewal

		<p>(<i>Pleurobema clava</i>), cracking pearlymussel (<i>Hemistena lata</i>), Cumberland bean (pearlymussel) (<i>Villosa trabalis</i>), Cumberland elktoe (<i>Alasmidonta atropurpurea</i>), Cumberland monkeyface (pearlymussel) (<i>Quadrula intermedia</i>), Cumberland pigtoe (<i>Pleurobema gibberum</i>), Cumberlandian combshell (<i>Epioblasma brevidens</i>), dark pigtoe (<i>Pleurobema furvum</i>), dromedary pearlymussel (<i>Dromus dromas</i>), fanshell (<i>Cyprogenia stegaria</i>), fat pocketbook (<i>Potamilus capax</i>), finelined pocketbook (<i>Lampsilis altilis</i>), finerayed pigtoe (<i>Fusconaia cuneolus</i>), flat pigtoe (<i>Pleurobema marshalli</i>), fluted kidneyshell (<i>Ptychobranchus subtentus</i>), green blossom (pearlymussel) (<i>Epioblasma torulosa gubernaculum</i>), heavy pigtoe (<i>Pleurobema taitianum</i>), Higgins eye (pearlymussel) (<i>Lampsilis higginsii</i>), inflated heelsplitter (<i>Potamilus inflatus</i>), littlewing pearlymussel (<i>Pegias fabula</i>), northern riffleshell (<i>Epioblasma torulosa rangiana</i>), orangefoot pimpleback (pearlymussel) (<i>Plethobasus cooperianus</i>), orangenacre mucket (<i>Lampsilis perovalis</i>), oyster mussel (<i>Epioblasma capsaeformis</i>), pale lilliput (pearlymussel) (<i>Toxolasma cylindrellus</i>), pink mucket (pearlymussel) (<i>Lampsilis abrupta</i>),</p>	<p>Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming; Fish: Georgia, Kentucky, North Carolina, Tennessee, and Virginia;</p> <p>Mussels: Arkansas, Kentucky, Illinois, Indiana, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Ohio, Pennsylvania, Tennessee (except Upper Coosa River Basin and Tributaries), Virginia, West Virginia, and Wisconsin;</p> <p>Crustaceans: Kentucky, Virginia, and West Virginia</p>		
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		purple bean (<i>Villosa perpurpurea</i>), purple cat's paw (=purple cat's paw pearlymussel) (<i>Epioblasma obliquata obliquata</i>), rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>), rayed bean (<i>Villosa fabalis</i>), ring pink (mussel) (<i>Obovaria retusa</i>), rough pigtoe (<i>Pleurobema plenum</i>), rough rabbitsfoot (<i>Quadrula cylindrica strigillata</i>), scaleshell mussel (<i>Leptodea leptodon</i>), sheepnose mussel (<i>Plethobasus cyphyus</i>), shiny pigtoe (<i>Fusconaia cor</i>), slabside pearlymussel (<i>Pleuronaia dolabelloides</i>), snuffbox mussel (<i>Epioblasma triquetra</i>), southern combshell (<i>Epioblasma penita</i>), spectaclecase (mussel) (<i>Cumberlandia monodonta</i>), stirrupshell (<i>Quadrula stapes</i>), tan riffleshell (<i>Epioblasma florentina walkeri</i> (= <i>E. walkeri</i>)), tubercled blossom (pearlymussel) (<i>Epioblasma torulosa torulosa</i>), turgid blossom (pearlymussel) (<i>Epioblasma turgidula</i>), white catspaw (pearlymussel) (<i>Epioblasma obliquata perobliqua</i>), white wartyback (pearlymussel) (<i>Plethobasus cicatricosus</i>), winged mapleleaf (<i>Quadrula fragosa</i>), and yellow blossom (pearlymussel) (<i>Epioblasma florentina florentina</i>); and Crustaceans: Big Sandy crayfish (<i>Cambarus callainus</i>)				
TE 43264B-1	Nicole Riddle, Columbia, SC	Carolina heelsplitter (<i>Lasmigona decorata</i>)	South Carolina	Presence/probable absence surveys	Remove from substrate, handle, identify,	Renewal/Amendment

					release, and salvage shells	
TE 089075-5	Donna Oddy, Rockledge, FL	Alabama beach mouse (<i>Peromyscus polionotus ammobates</i>), Anastasia Island beach mouse (<i>Peromyscus polionotus phasma</i>), Choctawhatchee beach mouse (<i>Peromyscus polionotus allophrys</i>), Perdido Key beach mouse (<i>Peromyscus polionotus trissyllepsis</i>), St. Andrew beach mouse (<i>Peromyscus polionotus peninsularis</i>), and southeastern beach mouse (<i>Peromyscus polionotus niveiventris</i>)	Alabama and Florida	Long-term monitoring, presence/probable absence surveys, mark/recapture studies, and genetic analyses	Capture, tag, ear snip, collect hair, radio collar, release, and translocate	Renewal/Amendment
TE 009638-12	Appalachian Technical Services, Inc., Wise, VA	Bats: Indiana bat (<i>Myotis sodalis</i>), gray bat (<i>Myotis grisescens</i>), northern long-eared bat (<i>Myotis septentrionalis</i>), Virginia big-eared bat (<i>Corynorhinus (=Plecotus) townsendii virginianus</i>); Fish: Blackside dace (<i>Phoxinus cumberlandensis</i>), Cumberland darter (<i>Etheostoma susanae</i>), duskytail darter (<i>Etheostoma percnurum</i>), Kentucky arrow darter (<i>Etheostoma spilotum</i>); Mussels: Appalachian monkeyface (pearlymussel) (<i>Quadrula sparsa</i>), birdwing pearlymussel (<i>Lemiox rimosus</i>), clubshell (<i>Pleurobema clava</i>), cracking pearlymussel (<i>Hemistena lata</i>), Cumberland bean (pearlymussel) (<i>Villosa trabilis</i>), Cumberland elktoe (<i>Alasmidonta atropurpurea</i>), Cumberland monkeyface (pearlymussel) (<i>Quadrula intermedia</i>),	Alabama, Georgia, Indiana, Kentucky, Mississippi, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia	Presence/probable absence surveys and scientific research aimed at recovery of the species	Bats: Enter hibernacula, capture with mist nets or harp traps, handle, band, radio tag, and release; Fish: capture via seining, netting, trapping, or electroshocking, handle, identify, and release; Mussels: remove from substrate, handle, identify, data collection, tagging, and	Renewal

		Cumberlandian combshell (<i>Epioblasma brevidens</i>), dromedary pearlymussel (<i>Dromus dromas</i>), fanshell (<i>Cyprogenia stegaria</i>), fat pocketbook (<i>Potamilus capax</i>), finerayed pigtoe (<i>Fusconaia cuneolus</i>), fluted kidneyshell (<i>Ptychobranchus subtentus</i>), littlewing pearlymussel (<i>Pegias fabula</i>), northern riffleshell (<i>Epioblasma torulosa rangiana</i>), orangefoot pimpleback (pearlymussel) (<i>Plethobasus cooperianus</i>), oyster mussel (<i>Epioblasma capsaeformis</i>), pink mucket (pearlymussel) (<i>Lampsilis abrupta</i>), purple bean (<i>Villosa perpurpurea</i>), purple cat's paw (=purple cat's paw pearlymussel) (<i>Epioblasma obliquata obliquata</i>), rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>), ring pink (mussel) (<i>Obovaria retusa</i>), rough pigtoe (<i>Pleurobema plenum</i>), rough rabbitsfoot (<i>Quadrula cylindrica strigillata</i>), sheepnose mussel (<i>Plethobasus cyphyus</i>), shiny pigtoe (<i>Fusconia cor</i>), slabside pearlymussel (<i>Pleuronaia dolabelloides</i>), snuffbox mussel (<i>Epioblasma triquetra</i>); Crustaceans: Guyandotte River crayfish (<i>Cambarus veteranus</i>) and Big Sandy crayfish (<i>Cambarus callainus</i>)			release; Crustaceans: capture via seining, handle, identify, and release	
TE 81492B-1	Dylan Brooks, Sylva, NC	Indiana bat (<i>Myotis sodalis</i>) and northern long-eared bat (<i>Myotis septentrionalis</i>)	Alabama, Arkansas, Connecticut, Delaware,	Presence/ probable absence surveys,	Capture with mist nets, handle,	Renewal/ Amendment

			Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin	habitat use and assessment research, population monitoring, and studies to evaluate potential impacts of White-nose Syndrome or other potential threats	identify, band, and radio tag	
TE 03305C-1	U.S. Army Corps of Engineers, Memphis District, Memphis, TN	Curtis pearlymussel (<i>Epioblasma florentina curtisi</i>), fanshell (<i>Cyprogenia stegaria</i>), fat pocketbook (<i>Potamilus capax</i>), fat threeridge (mussel) (<i>Amblema neislerii</i>), Higgins eye (pearlymussel) (<i>Lampsilis higginsii</i>), inflated heelsplitter (<i>Potamilus inflatus</i>), orangefoot pimpleback (pearlymussel) (<i>Plethobasus cooperianus</i>), Ouachita rock pocketbook (<i>Arkansas wheeleri</i>), pink mucket	Alabama, Arkansas, Florida, Illinois, Iowa, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee, Wisconsin	Presence/probable absence surveys	Capture, identify, and release	Renewal/Amendment

		(pearlymussel) (<i>Lampsilis abrupta</i>), rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>), rayed bean (<i>Villosa fabalis</i>), ring pink (mussel) (<i>Obovaria retusa</i>), scaleshell mussel (<i>Leptodea leptodon</i>), sheepnose mussel (<i>Plethobasus cyphyus</i>), snuffbox mussel (<i>Epioblasma triquetra</i>), southern clubshell (<i>Pleurobema decisum</i>), spectaclecase (mussel) (<i>Cumberlandia monodonta</i>), turgid blossom (pearlymussel) (<i>Epioblasma turgidula</i>), and winged mapleleaf (<i>Quadrula fragosa</i>)				
TE 81430B-1	Heather Wallace, Raleigh, NC	Gray bat (<i>Myotis grisescens</i>), Indiana bat (<i>Myotis sodalis</i>), northern long-eared bat (<i>Myotis septentrionalis</i>), and Virginia big-eared bat (<i>Corynorhinus (=Plecotus) townsendii virginianus</i>)	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee	Presence/probable absence surveys, population monitoring, genetic analyses, and White-nose Syndrome sampling	Enter hibernacula, capture with mist nets or harp traps, handle, identify, band, radio tag, collect hair samples, wing punch, and swab	Renewal/Amendment
TE 81500B-1	Sara Samoray, Nashville, TN	Gray bat (<i>Myotis grisescens</i>), Indiana bat (<i>Myotis sodalis</i>), northern long-eared bat (<i>Myotis septentrionalis</i>), and Virginia big-eared bat (<i>Corynorhinus (=Plecotus) townsendii virginianus</i>)	Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine,	Presence/probable absence surveys, studies to document habitat use, population monitoring, and to	Capture with mist nets or harp traps, handle, identify, band, and radio tag	Renewal

			Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming	evaluate potential impacts of White-nose Syndrome or other threats		
TE 178643-3	Jeffrey West, Columbia, SC	Carolina heelsplitter (<i>Lasmigona decorata</i>)	North Carolina and South Carolina	Presence/ probable absence surveys	Capture, handle, identify, and release	Renewal
TE 81353B-1	Stephanie Penk, Sylva, NC	Indiana bat (<i>Myotis sodalis</i>) and northern long-eared bat (<i>Myotis septentrionalis</i>)	Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts,	Presence/ probable absence surveys, habitat use and assessment research, population dynamics	Capture with mist nets, handle, identify, band, and radio tag	Renewal

			Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin	evaluation, and migration research		
TE 88796C-2	Geological Survey of Alabama, Tuscaloosa, AL	Fish: Blue shiner (<i>Cyprinella caerulea</i>), Cahaba shiner (<i>Notropis cahabae</i>), goldline darter (<i>Percina aurolineata</i>), rush darter (<i>Etheostoma phytophilum</i>), vermillion darter (<i>Etheostoma chermocki</i>); Mussels: Alabama moccasinshell (<i>Medionidus acutissimus</i>), Coosa moccasinshell (<i>Medionidus parvulus</i>), dark pigtoe (<i>Pleurobema furvum</i>), finelined pocketbook (<i>Lampsilis altilis</i>), Georgia pigtoe (<i>Pleurobema hanleyianum</i>), heavy pigtoe (<i>Pleurobema taitianum</i>), inflated heelsplitter (<i>Potamilus inflatus</i>), orangenacre mucket (<i>Lampsilis perovalis</i>), ovate clubshell (<i>Pleurobema perovatum</i>), southern	Alabama	Population surveys	Capture, handle, identify, and release	Amendment

		acornshell (<i>Epioblasma othcaloogensis</i>), southern clubshell (<i>Pleurobema decisum</i>), southern combshell (<i>Epioblasma penita</i>), southern pigtoe (<i>Pleurobema georgianum</i>), triangular kidneyshell (<i>Ptychobranchus greenii</i>), upland combshell (<i>Epioblasma metastriata</i>)				
PER 0036267	Shane Kelley, Louisville, KY	Gray bat (<i>Myotis grisescens</i>), Indiana bat (<i>Myotis sodalis</i>), northern long-eared bat (<i>Myotis septentrionalis</i>), and Virginia big-eared bat (<i>Corynorhinus (=Plecotus) townsendii virginianus</i>)	Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West	Presence/probable absence surveys	Capture with mist nets or harp traps, handle, identify, band, and radio tag	New

			Virginia, Wisconsin, and Wyoming			
PER 0036268	KFS LLC, Huntsville, AL	Alabama beach mouse (<i>Peromyscus polionotus ammobates</i>)	Alabama	Population monitoring, mark/ recapture studies	Capture, tag, and release	New
TE 42183A-2	Eglin Air Force Base, Niceville, FL	Red-cockaded woodpecker (<i>Picoides borealis</i>)	Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, and Virginia	Population management and monitoring	Capture, band, monitor nest cavities, construct and monitor artificial nest cavities and restrictors, recapture, and translocate	Renewal/ Amendment
TE 087194-5	Florida Forest Service, Goethe State Forest, Dunnellon, FL	Red-cockaded woodpecker (<i>Picoides borealis</i>)	Goethe State Forest, Levy County, Florida	Population management and monitoring	Capture, band, construct and install artificial nest cavities and restrictors, monitor nest cavities, recapture, and translocate	Renewal/ Amendment
PER 0037085	Mississippi Aquarium, Gulfport, MS	Green sea turtle (<i>Chelonia mydas</i>), hawksbill sea turtle (<i>Eretmochelys imbricata</i>), Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>), leatherback sea turtle (<i>Dermochelys coriacea</i>), and loggerhead sea turtle (<i>Caretta caretta</i>)	Mississippi	Population monitoring should they be re-encountered and physiological research during rehabilitation	Insert PIT tag, attach flipper tag, and collect blood samples	New

PER 0037218	Alabama Department of Environmental Management, Decatur, AL	Alabama sturgeon (<i>Scaphirhynchus suttkusi</i>), blue shiner (<i>Cyprinella caerulea</i>), boulder darter (<i>Etheostoma wapiti</i>), Cahaba shiner (<i>Notropis cahabae</i>), goldline darter (<i>Percina aurolineata</i>), palezone shiner (<i>Notropis albizonatus</i>), rush darter (<i>Etheostoma phytophilum</i>), spring pygmy sunfish (<i>Elassoma alabamae</i>), trispot darter (<i>Etheostoma trisella</i>), vermillion darter (<i>Etheostoma chermocki</i>), watercress darter (<i>Etheostoma nuchale</i>)	Alabama	Presence/ probable absence surveys and population monitoring	Capture, handle, identify, and release	New
PER 0037593	Donald Hubbs, Camden, TN	Alabama lampmussel (<i>Lampsilis virescens</i>), Alabama moccasinshell (<i>Medionidus acutissimus</i>), Appalachian elktoe (<i>Alasmidonta raveneliana</i>), Appalachian monkeyface (pearlymussel) (<i>Quadrula sparsa</i>), birdwing pearlymussel (<i>Lemiox rimosus</i>), clubshell (<i>Pleurobema clava</i>), Coosa moccasinshell (<i>Medionidus parvulus</i>), cracking pearlymussel (<i>Hemistena lata</i>), Cumberland bean (pearlymussel) (<i>Villosa trabalis</i>), Cumberland elktoe (<i>Alasmidonta atropurpurea</i>), Cumberland monkeyface (pearlymussel) (<i>Quadrula intermedia</i>), Cumberland pigtoe (<i>Pleurobema gibberum</i>), Cumberlandian combshell (<i>Epioblasma brevidens</i>), dromedary pearlymussel (<i>Dromus dromas</i>), fanshell (<i>Cyprogenia stegaria</i>), fat pocketbook (<i>Potamilus capax</i>), fineline	Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee	Presence/ probable absence surveys, scientific research, and collect for captive propagation and reintroduction	Remove from substrate, handle, identify, collect tissue, mark, release, collect for propagation at permitted Tennessee facility, transport, and release	New

		<p>pocketbook (<i>Lampsilis altilis</i>), finerayed pigtoe (<i>Fusconaia cuneolus</i>), fluted kidneyshell (<i>Ptychobranchus subtentus</i>), Georgia pigtoe (<i>Pleurobema hanleyianum</i>), green blossom (pearlymussel) (<i>Epioblasma torulosa gubernaculum</i>), inflated heelsplitter (<i>Potamilus inflatus</i>), littlewing pearlymussel (<i>Pegias fabula</i>), orangefoot pimpleback (pearlymussel) (<i>Plethobasus cooperianus</i>), oyster mussel (<i>Epioblasma capsaeformis</i>), pale lilliput (pearlymussel) (<i>Toxolasma cylindrellus</i>), pink mucket (pearlymussel) (<i>Lampsilis abrupta</i>), purple bean (<i>Villosa perpurpurea</i>), purple cat's paw (=purple cat's paw pearlymussel) (<i>Epioblasma obliquata obliquata</i>), rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>), rayed bean (<i>Villosa fabalis</i>), ring pink (mussel) (<i>Obovaria retusa</i>), rough pigtoe (<i>Pleurobema plenum</i>), rough rabbitsfoot (<i>Quadrula cylindrica strigillata</i>), scaleshell mussel (<i>Leptodea leptodon</i>), sheepnose mussel (<i>Plethobasus cyphyus</i>), shiny pigtoe (<i>Fusconaia cor</i>), slabside pearlymussel (<i>Pleuronaia dolabelloides</i>), snuffbox mussel (<i>Epioblasma triquetra</i>), southern acornshell (<i>Epioblasma othcaloogensis</i>), southern clubshell (<i>Pleurobema decisum</i>), southern pigtoe (<i>Pleurobema georgianum</i>), spectaclecase (mussel)</p>			
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		(<i>Cumberlandia monodonta</i>), tan riffleshell (<i>Epioblasma florentina walkeri</i> (= <i>E. walkeri</i>)), triangular kidneyshell (<i>Ptychobranchus greenii</i>), tubercled blossom (pearlymussel) (<i>Epioblasma torulosa torulosa</i>), turgid blossom (pearlymussel) (<i>Epioblasma turgidula</i>), upland combshell (<i>Epioblasma metastriata</i>), white wartyback (pearlymussel) (<i>Plethobasus cicatricosus</i>), winged mapleleaf (<i>Quadrula fragosa</i>), and yellow blossom (pearlymussel) (<i>Epioblasma florentina florentina</i>)				
TE 88797B-2	Amber Nolder, Harrisburg, PA	Gray bat (<i>Myotis grisescens</i>), Indiana bat (<i>Myotis sodalis</i>), and northern long-eared bat (<i>Myotis septentrionalis</i>)	Alabama, Arkansas, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North	Presence/probable absence surveys, habitat assessments, and habitat-use studies	Capture with mist nets and harp traps, handle, identify, band, mark with non-toxic paint, and radio tag	Renewal

			Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming			
TE 142806-3	James Cox, Tallahassee, FL	Red-cockaded woodpecker (<i>Picoides borealis</i>)	Florida and Georgia	Cross-fostering nestlings	Monitor, capture, weigh, band, release, translocate, and collect cloacal swabs	Amendment
PER 0037739	Arkansas State University, State University, AR	<i>Lindera melissifolia</i> (pondberry)	Arkansas	Scientific research and propagation	Collect root/rhizome tissue, and stem pieces	New
PER 0037719	Kissimmee Prairie Preserve State Park, Okeechobee, FL	Florida grasshopper sparrow (<i>Ammodramus savannarum floridanus</i>)	Florida	Presence/probable absence surveys, population management and monitoring, and collection and transport of eggs, nestlings, and adults for captive breeding	Nest searching, deploy nest cameras, install predator fences, nest lifting, fire ant treatment, capture with mist nets and audio lures, handle, band, monitor nest cavities, install predator barriers, collect blood, feces,	New

					and buccal swabs, collect and transport eggs, nestlings, and adults for captive breeding at permitted White Oak Conservation Foundation facility	
PER 0037812	Royal Ontario Museum, Toronto, ON	Gray bat (<i>Myotis grisescens</i>), Indiana bat (<i>Myotis sodalis</i>), and northern long-eared bat (<i>Myotis septentrionalis</i>)	Tennessee	Presence/probable absence surveys	Capture via mist nets and harp traps, handle, identify, and release	New
PER 0037836	Christopher Sheats, New Hill, NC	Amphibians: Neuse River waterdog (<i>Necturus lewisi</i>); Fish: Cape Fear shiner (<i>Notropis mekistocholas</i>), Carolina madtom (<i>Noturus furiosus</i>), Roanoke logperch (<i>Percina rex</i>), Waccamaw silverside (<i>Menidia extensa</i>); Mussels: Appalachian elktoe (<i>Alasmidonta raveneliana</i>), Atlantic pigtoe (<i>Fusconaia masoni</i>), Carolina heelsplitter (<i>Lasmigona decorata</i>), dwarf wedgemussel (<i>Alasmidonta heterodon</i>), James spiny mussel (<i>Pleurobema collina</i>), littlewing pearlymussel (<i>Pegias fabula</i>), Tar River spiny mussel (<i>Elliptio steinstansana</i>), and yellow lance (<i>Elliptio lanceolata</i>)	North Carolina and South Carolina	Presence/probable absence surveys	Amphibians: Capture via trap and baiting, handle, identify, and release; Fish: capture via seining, or netting, handle, identify, and release; Mussels: remove from substrate, handle, identify, mark, and release	New

PER 0037837	Justin Bagley, Jacksonville State University, Jacksonville, AL	Blue shiner (<i>Cyprinella caerulea</i>) and Cahaba shiner (<i>Notropis cahabae</i>)	Alabama	Presence/ Probable absence surveys, genomic analyses, and increase museum collection	Capture via seining or netting, handle, identify, photograph, collect non- lethal fin clips, release, collect voucher specimens	New
TE 079863-4	Michael Gangloff, Boone, NC	Mussels: Alabama lampmussel (<i>Lampsilis virescens</i>), Alabama moccasinshell (<i>Medionidus acutissimus</i>), Alabama pearlshell (<i>Margaritifera marrianae</i>), Altamaha spiny mussel (<i>Elliptio spinosa</i>), Appalachian elktoe (<i>Alasmidonta raveneliana</i>), Appalachian monkeyface (pearlymussel) (<i>Quadrula sparsa</i>), birdwing pearlymussel (<i>Lemiox rimosus</i>), black clubshell (<i>Pleurobema curtum</i>), Carolina heelsplitter (<i>Lasmigona decorata</i>), Chipola slabshell (<i>Elliptio chipolaensis</i>), Choctaw bean (<i>Villosa choctawensis</i>), clubshell (<i>Pleurobema clava</i>), Coosa moccasinshell (<i>Medionidus parvulus</i>), cracking pearlymussel (<i>Hemistena lata</i>), Cumberland bean (pearlymussel) (<i>Villosa trabalis</i>), Cumberland elktoe (<i>Alasmidonta atropurpurea</i>), Cumberland monkeyface (pearlymussel) (<i>Quadrula intermedia</i>), Cumberland pigtoe (<i>Pleurobema gibberum</i>), Cumberlandian combshell (<i>Epioblasma brevidens</i>),	Alabama, Florida, Georgia, Kentucky, Mississippi, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia	Presence/ probable absence surveys	Capture, identify, tag, collect buccal swabs, release, and salvage shells	Renewal

		<p>dark pigtoe (<i>Pleurobema furvum</i>), dromedary pearlymussel (<i>Dromus dromas</i>), dwarf wedgemussel (<i>Alasmidonta heterodon</i>), fanshell (<i>Cyprogenia stegaria</i>), fat pocketbook (<i>Potamilus capax</i>), fat threeridge (mussel) (<i>Amblema neislerii</i>), finelined pocketbook (<i>Lampsilis altilis</i>), finerayed pigtoe (<i>Fusconaia cuneolus</i>), flat pigtoe (<i>Pleurobema marshalli</i>), fuzzy pigtoe (<i>Pleurobema strodeanum</i>), green blossom (pearlymussel) (<i>Epioblasma torulosa gubernaculum</i>), Gulf moccasinshell (<i>Medionidus penicillatus</i>), heavy pigtoe (<i>Pleurobema taitianum</i>), inflated heelsplitter (<i>Potamilus inflatus</i>), interrupted (=Georgia) rocksail (<i>Leptoxis foremani</i>), James spiny mussel (<i>Pleurobema collina</i>), littlewing pearlymussel (<i>Pegias fabula</i>), narrow pigtoe (<i>Fusconaia escambia</i>), Ochlockonee moccasinshell (<i>Medionidus simpsonianus</i>), orangefoot pimpleback (pearlymussel) (<i>Plethobasus cooperianus</i>), oval pigtoe (<i>Pleurobema pyriforme</i>), ovate clubshell (<i>Pleurobema perovatum</i>), oyster mussel (<i>Epioblasma capsaeformis</i>), pale lilliput (pearlymussel) (<i>Toxolasma cylindrellus</i>), pink mucket (pearlymussel) (<i>Lampsilis abrupta</i>), purple bankclimber (mussel) (<i>Elliptoideus sloatianus</i>), purple bean (<i>Villosa perpurpurea</i>),</p>			
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		<p>purple cat's paw (=purple cat's paw pearlymussel) (<i>Epioblasma obliquata obliquata</i>), ring pink (mussel) (<i>Obovaria retusa</i>), rough pigtoe (<i>Pleurobema plenum</i>), rough rabbitsfoot (<i>Quadrula cylindrica strigillata</i>), round ebonyshell (<i>Fusconaia rotulata</i>), scaleshell mussel (<i>Leptodea leptodon</i>), sheepnose mussel (<i>Plethobasus cyphyus</i>), shiny pigtoe (<i>Fusconaia cor</i>), shinyrayed pocketbook (<i>Lampsilis subangulata</i>), slabside pearlymussel (<i>Pleuronaia dolabelloides</i>), southern acornshell (<i>Epioblasma othcaloogensis</i>), southern clubshell (<i>Pleurobema decisum</i>), southern combshell (<i>Epioblasma penita</i>), southern kidneyshell (<i>Ptychobranchus jonesi</i>), southern pigtoe (<i>Pleurobema georgianum</i>), southern sandshell (<i>Hamiota australis</i>), stirrupshell (<i>Quadrula stapes</i>), tan riffleshell (<i>Epioblasma florentina walkeri</i> (=<i>E. walkeri</i>)), tapered pigtoe (<i>Fusconaia burkei</i>), Tar River spiny mussel (<i>Elliptio steinstansana</i>), triangular kidneyshell (<i>Ptychobranchus greenii</i>), tubercled blossom (pearlymussel) (<i>Epioblasma torulosa torulosa</i>), turgid blossom (pearlymussel) (<i>Epioblasma turgidula</i>), upland combshell (<i>Epioblasma metastriata</i>), white wartyback (pearlymussel) (<i>Plethobasus cicatricosus</i>),</p>			
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		winged mapleleaf (<i>Quadrula fragosa</i>), and yellow blossom (pearlymussel) (<i>Epioblasma florentina florentina</i>); Snails: Anthony's riversnail (<i>Athearnia anthonyi</i>), armored snail (<i>Pyrgulopsis</i> (= <i>Marstonia</i>) <i>pachyta</i>), cylindrical lioplax (snail) (<i>Lioplax cyclostomaformis</i>), flat pebblesnail (<i>Lepyrium showalteri</i>), Lacy elimia (snail) (<i>Elimia crenatella</i>), painted rocksнail (<i>Leptoxis taeniata</i>), plicate rocksнail (<i>Leptoxis plicata</i>), rough hornsнail (<i>Pleurocera foreman</i>), round rocksнail (<i>Leptoxis ampla</i>), slender campeloma (<i>Campeloma decampi</i>), and tulotoma snail (<i>Tulotoma magnifica</i>)				
TE 50300D-1	Edward Wilson, Lexington, KY	Gray bat (<i>Myotis grisescens</i>), Indiana bat (<i>Myotis sodalis</i>), and northern long-eared bat (<i>Myotis septentrionalis</i>)	Kentucky, North Carolina, Ohio, South Carolina, Tennessee, Virginia, and West Virginia	Presence/probable absence surveys	Capture via mist nets and harp traps, handle, identify, and release	Amendment
TE 087191-6	Sandhills Ecological Institute, Southern Pines, NC	Red-cockaded woodpecker (<i>Picoides borealis</i>)	North Carolina and South Carolina	Population management and monitoring and research on Avian Keratin Disorder.	Capture, recapture, band, construct and monitor artificial nest cavities and restrictors, monitor nest cavities, translocate, collect buccal and cloacal swabs, and	Renewal/Amendment

					<p>capture and recapture birds that exhibit Avian Keratin Disorder to monitor their fate in the population.</p>	
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Authority

We publish this notice under section 10(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

John Tirpak,
*Deputy Assistant Regional Director,
Ecological Services.*

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